



PATENT

2623

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Vijitha Senaka Kiridena et al.

Serial No.: 09/467,818

Group Art Unit: 2623

Filed: December 20, 1999

Examiner: Dastouri, Mehrdad

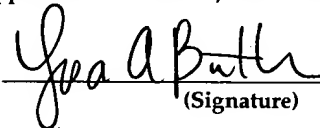
Title: VEHICLE DATA ACQUISITION AND DISPLAY ASSEMBLY

Atty. Docket No.: 199-0680 (FGT 1797 PA)

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**APPEAL BRIEF**

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Dear Sir:

The following appeal brief is submitted pursuant to the Notice of Appeal filed July 28, 2004, in the above-identified application.

**I. Real Party in Interest**

The real party in interest in this matter is The Ford Global Technologies, Inc. in Dearborn, Michigan (hereinafter "Ford") is the assignee of the present invention and application.

09/29/2004 HALI11 00000014 061510 09467818

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## **II. Related Appeals and Interferences**

There are no other known appeals or interferences, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

## **III. Status Of The Claims**

Claims 1-2 and 4-20 are currently pending and stand under final rejection, from which this appeal is taken. A copy of the claims on appeal is attached as an Appendix.

## **IV. Status Of Amendments**

On May 19, 2004, a Response in the form of a Request for Reconsideration was filed in response to a Final Office Action dated March 24, 2004, which provided remarks for the allowance of claims 1-2 and 4-20. There have been no amendments filed subsequent to the stated Response.

## **V. Summary Of The Invention**

By way of summary, the present invention is directed to vehicle data acquisition and display assemblies and to a method of acquiring and selectively displaying images to be viewed within a vehicle. All of the independent claims, namely claims 1, 11, and 17, encompass several points of novelty and since claims 2, 4-10, 12-16, and 18-20 depend from claims 1, 11, and 17, respectively, they also contain at least the same points of novelty.

Claim 1 recites a vehicle data acquisition and display assembly 10 that includes two or more image acquisition apparatuses 75. The image apparatuses 75 are disposed upon a vehicle 60 and acquire images of an environment in which the vehicle resides. A video processing assembly 55 receives the acquired images and in response thereto creates a mosaic image 85 of the environment. A display 47 is disposed within the vehicle 60 and displays at least a portion of the mosaic 85. An image control assembly 25 selects a first portion of the mosaic 85 to be displayed. The data acquisition

and display assembly 10 monitors one or more attributes of the vehicle 60 and in response to the attributes displays a second portion of the mosaic 85 (see pages 6-22 of specification, specifically page 21, lines 15-26 and page 22, lines 1-24).

Claim 11 recites an assembly 10 for use with a vehicle 60 of the type having a roof 76. The assembly 10 includes cameras 75, which are equidistantly disposed along at least two edges 78 of the roof 76 and cooperatively provide images of the environment in which the vehicle 60 resides. The equidistant spacing of the cameras 75 is effective to cause each provided image from two spatially adjacent cameras to abut to cooperatively form a panoramic mosaic view 85. A display assembly 45 selectively displays the mosaic view 85 of the cooperatively provided images. A controller 55 has a touch sensitive surface 100 upon which an icon is disposed. The controller 55 selects a first portion of the cooperatively provided images by use of the touch sensitive surface 100 and causes the selected first portion to be displayed by the display assembly 45. The controller 55 selectively monitors a vehicle attribute and, in response to the monitored attribute, displays a second portion of the images on the display assembly 45 (see pages 6-22 of specification, specifically page 18, lines 22-26, page 19, and page 20 lines 1-4).

Claim 17 recites a method for acquiring and selectively displaying images to be viewed within a vehicle 60. The method includes the steps of providing multiple cameras 75. The cameras 75 are disposed upon the vehicle 60, effective to acquire the images. A display 47 is provided. The display 47 is disposed within the vehicle 60, effective to selectively display a seamless mosaic view 85 from a portion of the images. A voice command is generated. The voice command is used to select a portion of the images (see pages 6-22 of specification, specifically page 20, lines 22-26 and page 21, lines 1-14).

Applicants agree that the prior art within the field of vision systems and image generation has included the stitching of multiple image frames of a scene together to form a composite image. Applicants have also agreed that the prior art within the field of rear view field support has included the synthesizing of vehicular data, such as steering data, with a picture image. What is not known or suggested are the several novel aspects of the present invention and associated advantages thereof.

All of the novel aspects of the present invention are not taught or suggested by the prior art separately or in combination. The novel aspects and associated advantages are described in detail below.

What is not known or suggested is the displaying of a portion of a mosaic image of an environment within a vehicle. The ability to select portions of a mosaic image of an environment allows a vehicle occupant to easily obtain desired knowledge of that environment. The occupant can observe regions surrounding the vehicle without temporarily "taking their eyes off the road".

In addition, what is also not known or suggested is the displaying of a portion of a mosaic image in response to a vehicle attribute. The ability to view portions of a mosaic in response to vehicle attributes provides a vehicle occupant with a desired view of an environment without manual selection of that view to readily obtain knowledge thereof. For example, portions of a mosaic may be selected by a vehicle system in response to engine speed, vehicle operations and maneuvers, and other vehicle attributes to provide a driver with appropriate and useful environment information.

What is also not known or suggested is the selecting of portions of a mosaic image in response to voice commands. The ability to select mosaic image portions via voice command further prevents a vehicle occupant from temporarily taking their eyes off the road to manually and physically perform the selection. For example, a vehicle driver may select portions of a mosaic image through voice communication while maintaining eyesight on the road ahead of the vehicle.

Claim 2 recites the vehicle data acquisition and display assembly 10 of claim 1 wherein the image acquisition apparatuses 75 each include a camera.

Claim 4 recites the vehicle data acquisition and display assembly 10 of claim 1 wherein the vehicle 60 is selectively maneuvered and wherein the assembly 10 senses the maneuvering of the vehicle 60 and, in response to the sensed maneuvering, causes a third portion of the mosaic 85 to be displayed by the display assembly 10.

Claim 5 recites the vehicle acquisition and display assembly 10 of claim 4 and further includes a voice activated control assembly 30 which selectively receives a

voice command and which selectively causes a fourth portion of the mosaic 85 to be displayed in response to the voice command.

Claim 6 recites the vehicle acquisition and display assembly 10 of claim 1 and further includes a lens cover 175 and a lens cleaning assembly 50, which selectively cleans the lens cover 175.

Claim 7 recites the vehicle data acquisition and display assembly 10 of claim 6 wherein the lens cleaning assembly 50 includes a source of compressed air and a valve 190, which selectively allows the compressed air to be applied to the lens cover 175.

Claim 8 recites the vehicle data acquisition and display assembly 10 of claim 7 wherein the lens cleaning assembly 50 further includes a source of a cleansing agent 187, which is selectively and concomitantly mixed with the applied compressed air.

Claim 9 recites the vehicle data acquisition and display assembly 10 of claim 8 wherein the cleansing agent 187 is warmed before it is mixed with the applied compressed air.

Claim 10 recites the vehicle data acquisition and display assembly 10 of claim 1 further includes an audio assembly 40, which selectively generates certain audio signals that describe the portion of the mosaic 85.

Claim 12 recites the assembly 10 of claim 11 wherein each of the cameras 75 have an image acquisition surface 79, which is substantially coplanar with a portion of the roof 76.

Claim 13 recites the assembly 10 of claim 12 wherein the cooperatively provided images include a first image, which represents a first portion of the environment that is relatively far from the vehicle 60 and a second image, which represents a second portion of the environment that is relatively close to the vehicle 60. The controller 55 selects the first image to be displayed upon the display assembly 45 when the controller 55 is touched at a point, which is relatively far from the icon. The controller 55 selects the second image to be displayed upon the display assembly 45 when the controller 55 is touched at a second point, which is relatively close to the icon.

Claim 14 recites the assembly 10 of claim 13 wherein the icon includes an image of a vehicle 60.

Claim 15 recites the assembly 10 of claim 11 and further includes a voice recognition module 30, which causes the first portion of the cooperatively provided images to be displayed by the display assembly 45 in response to a receipt of a certain voice command.

Claim 16 recites the assembly 10 of claim 14 and further includes an audio generator 40, which selectively generates certain sounds that are based upon the certain portion of the cooperatively provided images.

Claim 18 recites the method of claim 17 and further includes the providing of a source of air 180. The source of air 180 is disposed within the vehicle 60. A second voice command is generated. The air applied to the cameras 75 by use of the generated second voice command.

Claim 19 recites the method of claim 17 wherein each of the cameras 75 are substantially identical.

Claim 20 recites the method of claim 18 and further includes providing a cleansing agent 187. The cleansing agent 187 is heated. The air is mixed with the heated cleansing agent 187. The mixture of the air and the heated cleaning agent 187 is applied to the cameras 75.

## **VI. Issues**

The following issues are presented in this appeal, which correspond directly to the Examiner's final grounds for rejection in the Final Office Action dated March 24, 2004:

(1) whether claims 1, 2, and 4 are patentable under 35 U.S.C. §103(a) over Ramakesavan (USPN 6,184,781) and Henley (USPN 5,657,073) and further in view of Akinori (JP 10175482);

(2) whether claim 5 is patentable under 35 U.S.C. 103(a) over Ramakesavan, Henley, and Akinori as applied to claim 1 and further in view of Kiridena et al. (USPN 6,429,789);

(3) whether claims 6-9 are patentable under 35 U.S.C. 103(a) over Ramakesavan, Henley, and Akinori as applied to claim 1 and further in view of Hassinger (USPN 3,915,385);

(4) whether claim 10 is patentable under 35 U.S.C. 103(a) over Ramakesavan, Henley, and Akinori as applied to claim 1 and further in view of Wada (6,172,601);

(5) whether claims 11-13 are patentable under 35 U.S.C. 103(a) over Ramakesavan, Henley, and Akinori as applied to claim 1 and further in view of Schofield et al. (US 5,949,331) and Wright et al. (US 6,161,066);

(6) whether claim 14 is patentable under 35 U.S.C. 103(a) over Ramakesavan, Henley, Akinori, Schofield, and Wright as applied to claim 13 and further in view of Kiridena;

(7) whether claim 15 is patentable under 35 U.S.C. 103(a) over Ramakesavan, Henley, Akinori, and Wada as applied to claim 10 and further in view of Kiridena;

(8) whether claim 16 is patentable under 35 U.S.C. 103(a) over Ramakesavan, Henley, Akinori, Schofield, Wright, and Kiridena as applied to claim 14 and further in view of Wada;

(9) whether claims 17 and 19 are patentable under 35 U.S.C. 103(a) over Ramakesavan, Henley, and Akinori as applied to claim 1 and further in view of Okude et al. (US 6,157,342); and

(10) whether claims 18 and 20 are patentable under 35 U.S.C. 103(a) over Ramakesavan, Henley, Akinori, and Okude as applied to claim 17 and further in view of Kiridena and Hassinger.

## VII. Grouping of Claims

The rejected claims have been grouped together by the Patent Office Examiner in the rejection. The Appellants state, however, that each of the rejected claims stand on their own recitation and are separately patentable for the reasons set forth in more detail below.

### VIII. Argument

#### A. THE REJECTION OF CLAIMS 1, 2, AND 4 UNDER 35 U.S.C. §103(a)

Claims 1, 2, and 4 stand fully rejected under 35 U.S.C. §103(a) as being unpatentable over Ramakesavan and Henley and further in view of Akinori. Ramakesavan discloses a rear looking vision system 10 that utilizes three cameras 12 to monitor a scene behind a vehicle A. Multiple image frames of the scene are stitched together to form a composite image of the scene that is rearward of the vehicle A.

Henley discloses an imaging system that provides a panoramic view using multiple cameras 10. The imaging system includes a pan-tilt-rotate-zoom controller 22 that selects a portion of a panoramic image to be viewed.

Akinori discloses a vehicle rear view field support device. The device includes a receiving part or camera 1 that has a point of view directed to a position rearward of a host vehicle. The device monitors a steering angle of the vehicle and in response thereto adjusts the directed angle of the camera 1. The directed angle of the camera 1 is adjusted via a drive part 21 and a control part 20. Akinori uses a single camera to monitor a single view to acquire a single image. Akinori adjusts directed position or angle of the camera 1 to view a different area exterior to the vehicle. In other words, Akinori simply adjusts directed angle of the camera 1 in response to steering angle of the vehicle.

Akinori also synthesizes vehicular data, such as steering data, with a picture image. Akinori synthesizes the vehicular data with a picture image to illustrate the retreat track or the rear wheel loci 15 at instances in time of a vehicle. In Akinori steering angle, vehicle speed, and rear wheel migration locus parameters are monitored and projected in the form of line drawing data onto a picture image of an area rearward of the vehicle. The synthesized image 16 illustrates the retreat track of the vehicle in the picture image.

It has been agreed that Ramakesavan discloses the stitching of multiple image frames of a scene together to form a composite image. It has also been agreed and stated in the Final Office Action that Ramakesavan does not specifically teach selectively displaying a portion of an image. It has further been agreed and stated in the Final Office Action that neither Ramakesavan nor Henley specifically teach causing



a portion of the mosaic to be displayed in response to a vehicle attribute. The Final Office Action and the Advisory Action rely on Akinori for such teachings.

The Advisory Action states that Akinori teaches the generation of mosaic images and refers to the synthesized backward supervisory picture image of Akinori in paragraphs [0015], [0019], [0029]-[0031], [0037], [0089], and in the image composition section 8. In Akinori a synthesized or retreat image 16 is formed through the synthesizing of a retreat track 15 with a back monitor image of a car. The back monitor image is an image of an environment rearward of the car. Nowhere in the stated paragraphs or anywhere else in Akinori is a synthesized backward supervisory picture image disclosed nor is such an image described with respect to the image composition section 8. The only synthesized image generated in Akinori is the retreat image 16, which as stated is a composition of the retreat track data 15 with the back monitor image. This is clearly stated in paragraphs [0014], [0015], and [0019] of Akinori.

The synthesized retreat image 16 of Akinori is clearly not a mosaic image. A mosaic image refers to the combining of multiple images of an environment to generate a composite thereof. The retreat image 16 includes retreat track line drawing data overlaid on a single area view of an environment. A mosaic image includes views of multiple areas of an environment, which are combined to provide a wider or larger conglomerate view of an environment surrounding, for example, a vehicle.

The Advisory action states that Akinori generates a composite image and refers to the line drawing image data in paragraph 15. Although Akinori generates a composite of retreat tract data and a back monitor image, this does not imply that Akinori generates a mosaic image. It has clearly been shown that the composition of data and a single image is not the same as the combining of multiple images.

The Advisory Action further states that Akinori creates mosaic images W1 and W2. W1 and W2 of Akinori are not mosaic images, but are rather back field-of-view ranges, as stated in paragraph [0093]. Field-of-view ranges may be referred to as windows or areas in which a camera is capable of monitoring. Field-of-view ranges W1 and W2 are provided as examples to illustrate the switching between a first field-of-view to a second field-of-view in response to a change in steering wheel angle. The

camera of Akinori is used to generate the back monitor image based on the angle of the camera and the corresponding field-of-view.

The Advisory Action in addition states that Akinori displays the second portion of mosaic image (image W1) in response to the monitored attribute (rear wheel moving locus). As stated W1 is not an image or a mosaic image, but is rather a field-of-view. Also, nowhere in Akinori is a portion of the field-of-view W1 selected nor is a portion of the field-of-view W1 selected and displayed. The field-of-view W1 is displayed in its entirety when the steering angle of the vehicle corresponds thereto.

The Advisory Action yet further states that Akinori selectively displays portions of a mosaic image in response to vehicle attributes and refers to Figures 2, 8, and 9. Figure 2 is a flow chart, which shows an example of an algorithm of operation of the logistic support equipment of Akinori that is used to select the corresponding field-of-view depending upon the steering angle. Figure 8 is a drawing of the field-of-views W1 and W2 stated above and of the rear wheel prediction locus. Figure 9 is a block diagram of the equipment utilized by Akinori to display the back monitor image of the selected field-of-view. Nowhere in the flow chart, in the drawing, in the block diagram, or in the specification of Akinori is there any mention of selectively displaying portions of a mosaic image.

Referring to MPEP 2143, to establish a *prima facie* case of obviousness the prior art must teach or suggest all the claimed limitations. Thus, Applicants submit that since it has been agreed that Ramakesavan and Henley both fail to teach or suggest the selective displaying of portions of mosaic images in response to vehicle attributes, and since Akinori also fails to teach or suggest the same that each and every element of claim 1 is not taught or suggested, therefore claim 1 is believed to be independently patentable and allowable.

In addition, referring to MPEP 2143.01, the fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination, *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Also although a prior art device may be capable of being modified to run the way the apparatus is

claimed, there must be a suggestion or motivation in the reference to do so, 916 F.2d at 682, 16 USPQ2d at 1432. Applicants submit that no such motivation or suggestion provided in Ramakesavan, Henley, or Akinori to combine and modify the stated references, as is necessary to arrive at the claimed invention.

Ramakesavan and Akinori are directed towards rear looking vision systems of a vehicle, which provide an image of an area rearward of a vehicle, whereas, Henley is generally directed towards an imaging system for acquiring panoramic views. Henley is not directed towards a moving vehicle data acquisition and display system. The imaging systems of Ramakesavan and Akinori do not provide panoramic views or suggest the generation of a panoramic view and the imaging system of Henley is not directed towards a vehicle application nor is there any suggestion thereof. Notice that Ramakesavan and Henley are not within the same U.S. subclass, but rather are simply under the broad classification of television. Thus, it would not have been obvious to combine the teachings of Ramakesavan, Henley, or Akinori nor would their combination allow one to arrive at the claimed invention.

Claim 2 is believed to be independently patentable and allowable for the reasons set forth above since it depends from claim 1 and further recites the limitation of wherein the image acquisition apparatuses each include a camera. Ramakesavan, Henley, and Akinori do not teach or suggest this combination.

Claim 4 is believed to be independently patentable and allowable for the reasons set forth above since it depends from claim 1 and further recites the limitation of wherein the vehicle is selectively maneuvered and wherein the assembly senses the maneuvering of the vehicle and, in response to the sensed maneuvering, causes a third portion of the mosaic to be displayed by the display assembly. Ramakesavan, Henley, and Akinori do not teach or suggest this combination.

#### **B. THE REJECTION OF CLAIM 5 UNDER 35 U.S.C. §103(a)**

Claim 5 stands fully rejected under 35 U.S.C. §103(a) Ramakesavan, Henley, and Akinori as applied to claim 1 and further in view of Kiridena. Applicants submit that Kiridena like Ramakesavan, Henley, and Akinori fails to teach or suggest

the selective displaying of portions of a mosaic image in response to vehicle attributes. Therefore, Applicants submit that each and every element of claim 5 is not taught or suggested by Ramakesavan, Henley, Akinori, or Kiridena, or any combination thereof and thus claim 5 is also believed to be independently patentable and allowable. Also, there is no motivation provided in any of the stated references to make such combination and modification necessary to arrive at the claimed invention.

#### **C. THE REJECTION OF CLAIMS 6-9 UNDER 35 U.S.C. §103(a)**

Claims 6-9 stand fully rejected under 35 U.S.C. §103(a) Ramakesavan, Henley, and Akinori as applied to claim 1 and further in view of Hassinger. Applicants submit that Hassinger like Ramakesavan, Henley, and Akinori fails to teach or suggest the selective displaying of portions of a mosaic image in response to vehicle attributes. Therefore, Applicants submit that each and every element of claims 6-9 is not taught or suggested by Ramakesavan, Henley, Akinori, or Hassinger, or any combination thereof and thus claims 6-9 are also believed to be independently patentable and allowable. Also, there is no motivation provided in any of the stated references to make such combination and modification necessary to arrive at the claimed invention.

#### **D. THE REJECTION OF CLAIM 10 UNDER 35 U.S.C. §103(a)**

Claim 10 stands fully rejected under 35 U.S.C. §103(a) Ramakesavan, Henley, and Akinori as applied to claim 1 and further in view of Wada. Applicants submit that Wada like Ramakesavan, Henley, and Akinori fails to teach or suggest the selective displaying of portions of a mosaic image in response to vehicle attributes. Therefore, Applicants submit that each and every element of claim 10 is not taught or suggested by Ramakesavan, Henley, Akinori, or Wada, or any combination thereof and thus claim 10 is also believed to be independently patentable and allowable. Also, there is no motivation provided in any of the stated references to make such combination and modification necessary to arrive at the claimed invention.

#### **E. THE REJECTION OF CLAIMS 11-13 UNDER 35 U.S.C. §103(a)**

Claims 11-13 stand fully rejected under 35 U.S.C. §103(a) Ramakesavan, Henley, and Akinori as applied to claim 1 and further in view of Schofield and Wright. Applicants submit that Schofield and Wright like Ramakesavan, Henley, and Akinori also fail to teach or suggest the selective displaying of portions of a mosaic image in response to vehicle attributes. Therefore, Applicants submit that each and every element of claims 11-13 is not taught or suggested by Ramakesavan, Henley, Akinori, Schofield, or Wright, or any combination thereof and thus claims 11-13 are also believed to be independently patentable and allowable. Also, there is no motivation provided in any of the stated references to make such combination and modification necessary to arrive at the claimed invention.

#### **F. THE REJECTION OF CLAIM 14 UNDER 35 U.S.C. §103(a)**

Claim 14 stands fully rejected under 35 U.S.C. §103(a) Ramakesavan, Henley, Akinori, Schofield, and Wright as applied to claim 13 and further in view of Kiridena. Since Kiridena, Ramakesavan, Henley, Akinori, Schofield, and Wright fail to teach or suggest the selective displaying of portions of a mosaic image in response to vehicle attributes, Applicants submit that each and every element of claim 14 is not taught or suggested by Ramakesavan, Henley, Akinori, Schofield, Wright, or Kiridena or any combination thereof and thus claim 14 is also believed to be independently patentable and allowable. Also, there is no motivation provided in any of the stated references to make such combination and modification necessary to arrive at the claimed invention.

#### **G. THE REJECTION OF CLAIM 15 UNDER 35 U.S.C. §103(a)**

Claim 15 stands fully rejected under 35 U.S.C. §103(a) Ramakesavan, Henley, Akinori, and Wada as applied to claim 10 and further in view of Kiridena. Applicants submit that since Kiridena, Ramakesavan, Henley, Akinori, and Wada fail to teach or suggest the selective displaying of portions of a mosaic image in response to

vehicle attributes, that each and every element of claim 15 is also not taught or suggested by Ramakesavan, Henley, Akinori, Wada, or Kiridena or any combination thereof and thus claim 15 is also believed to be independently patentable and allowable.

Also, there is no motivation provided in any of the stated references to make such combination and modification necessary to arrive at the claimed invention.

#### **H. THE REJECTION OF CLAIM 16 UNDER 35 U.S.C. §103(a)**

Claim 16 stands fully rejected under 35 U.S.C. §103(a) Ramakesavan, Henley, Akinori, Schofield, Wright, and Kiridena as applied to claim 14 and further in view of Wada. Applicants submit that since Wada, Ramakesavan, Henley, Akinori, Schofield, Wright, and Kiridena fail to teach or suggest the selective displaying of portions of a mosaic image in response to vehicle attributes, that each and every element of claim 16 is not taught or suggested by Ramakesavan, Henley, Akinori, Schofield, Wright, Kiridena, or Wada or any combination thereof and thus claim 16 is also believed to be independently patentable and allowable. Also, there is no motivation provided in any of the stated references to make such combination and modification necessary to arrive at the claimed invention.

#### **I. THE REJECTION OF CLAIMS 17 AND 19 UNDER 35 U.S.C. §103(a)**

Claims 17 and 19 stand fully rejected under 35 U.S.C. §103(a) Ramakesavan, Henley, Akinori, as applied to claim 1 and further in view of Okude. Applicants submit that Okude like Ramakesavan, Henley, and Akinori fails to teach or suggest the selective displaying of portions of a mosaic image in response to vehicle attributes. Therefore, Applicants submit that each and every element of claims 17 and 19 are not taught or suggested by Ramakesavan, Henley, Akinori, or Okude or any combination thereof and thus claims 17 and 19 are also believed to be independently patentable and allowable. Also, there is no motivation provided in any of the stated references to make such combination and modification necessary to arrive at the claimed invention.

**J. THE REJECTION OF CLAIMS 18 and 20 UNDER 35 U.S.C. §103(a)**

~~Claims 18 and 20 stand fully rejected under 35 U.S.C. §103(a)~~  
Ramakesavan, Henley, Akinori, and Okude as applied to claim 17 and further in view of Kiridena and Hassinger. Applicants submit that since Kiridena, Hassinger, Ramakesavan, Henley, Akinori, and Okude fail to teach or suggest the selective displaying of portions of a mosaic image in response to vehicle attributes, that each and every element of claims 18 and 20 is not taught or suggested by Ramakesavan, Henley, Akinori, Okude, Kiridena, or Hassinger or any combination thereof and thus claims 18 and 20 are also believed to be independently patentable and allowable. Also, there is no motivation provided in any of the stated references to make such combination and modification necessary to arrive at the claimed invention.

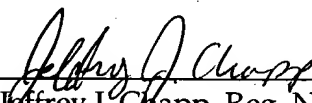
**IX. Appendix**

A copy of the claims involved in this appeal, namely claims 1-2 and 4-20, is attached hereto as Appendix A.

**X. Conclusion**

For the reasons advanced above, Appellants respectfully contend that each claim is patentable. Therefore reversal of the rejection is requested.

Respectfully submitted,

  
\_\_\_\_\_  
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Dated: August 13, 2004

## APPENDIX A

### In the claims:

1. A vehicle data acquisition and display assembly comprising:  
at least two image acquisition apparatuses which are disposed upon a vehicle and which acquire images of the environment in which said vehicle resides;  
a video processing assembly which is coupled to said at least two image acquisition apparatuses, which receives said acquired images, and which uses said acquired images to create a mosaic image of said environment;  
a display which is coupled to said video processing assembly, which is disposed within said vehicle, and which selectively displays at least one portion of said mosaic; and  
an image control assembly which selects said at least one portion, thereby allowing said at least one portion of said mosaic to be selectively displayed by said display assembly;  
wherein said vehicle has at least one attribute and wherein said assembly selectively monitors said at least one attribute and, in response to said monitored attribute, generates a certain signal which is effective to cause a second portion of said mosaic to be displayed by said display assembly.
2. The vehicle data acquisition and display assembly of claim 1 wherein said at least two image acquisition apparatuses each comprise a camera.
4. The vehicle data acquisition and display assembly of claim 1 wherein said vehicle is selectively maneuvered and wherein said assembly senses said maneuvering of said vehicle and, in response to said sensed maneuvering, causes a third portion of said mosaic to be displayed by said display assembly.
5. The vehicle acquisition and display assembly of claim 4 further comprising a voice activated control assembly which selectively receives at least one



voice command and which selectively causes a fourth portion of said mosaic to be displayed in response to said at least one voice command.

6. — The vehicle data acquisition and display assembly of claim 1 further comprising:

at least one lens cover; and

a lens cleaning assembly which selectively cleans said at least one lens cover.

7. The vehicle data acquisition and display assembly of claim 6 wherein said lens cleaning assembly includes a source of compressed air; and a valve which selectively allows said compressed air to be applied to said at least one lens cover.

8. The vehicle data acquisition and display assembly of claim 7 wherein said lens cleaning assembly further includes a source of a cleansing agent which is selectively and concomitantly mixed with said applied compressed air.

9. The vehicle data acquisition and display assembly of claim 8 wherein said cleansing agent is warmed before it is mixed with said applied compressed air.

10. The vehicle data acquisition and display assembly of claim 1 further comprising an audio assembly which selectively generates certain audio signals which describe said at least one portion of said mosaic.

11. An assembly for use with a vehicle of the type having a roof, said assembly comprising:

a plurality of cameras which are equidistantly disposed along at least two edges of said roof and which cooperatively provide images of the environment in which said vehicle resides, wherein said equidistant spacing of said cameras is effective

to cause each provided image from two spatially adjacent cameras to abut to cooperatively form a panoramic mosaic view;

a display assembly which selectively displays said mosaic view of said cooperatively provided images; and

a controller having a touch sensitive surface upon which an icon is disposed, said controller selecting a first portion of said cooperatively provided images by use of said touch sensitive surface and causing said selected first portion of said cooperatively provided images to be displayed by said display assembly;

wherein said vehicle has at least one attribute and wherein said controller selectively monitors said at least one attribute and, in response to said monitored attribute, displays a second portion of said images on said display assembly.

12. The assembly of claim 11 wherein each of said cameras have an image acquisition surface which is substantially coplanar with a portion of said roof.

13. The assembly of claim 12 wherein said cooperatively provided images include a first image which represents a first portion of the environment which is relatively far from said vehicle and a second image which represents a second portion of said environment which is relatively close to said vehicle, said controller selecting said first image to be displayed upon said display assembly when said controller is touched at a point which is relatively far from said icon and selecting said second image to be displayed upon said display assembly when said controller is touched at a second point which is relatively close to said icon.

14. The assembly of claim 13 wherein said icon comprises an image of a vehicle.

15. The assembly of claim 11 further comprising a voice recognition module which causes said first portion of said cooperatively provided images to be displayed by said display assembly in response to a receipt of a certain voice command.

16. The assembly of claim 14 further comprising an audio generator which selectively generates certain sounds which are based upon said certain portion of said cooperatively provided images.

17. A method for acquiring and selectively displaying images to be viewed within a vehicle, said method comprising the steps of:

- providing a plurality of cameras;
- disposing said plurality of cameras upon said vehicle, effective to acquire said images;
- providing a display;
- disposing said display within said vehicle, effective to selectively display a seamless mosaic view from at least a portion of said images;
- generating a voice command; and
- using said voice command to select at least a portion of said images.

18. The method of claim 17 further comprising the steps of:

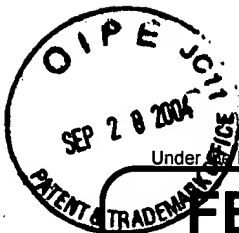
- providing a source of air;
- disposing said source of air within said vehicle;
- generating a second voice command; and
- causing said air to be applied to at least one of said plurality of cameras by use of said generated second voice command.

19. The method of claim 17 wherein each of said cameras are substantially identical.

20. The method of claim 18 further comprising the steps of:

- providing a cleansing agent;
- heating said cleansing agent;
- mixing said air with said heated cleansing agent; and
- applying said mixture of said air and said heated cleaning agent to said at least one of said plurality of cameras.





PTO/SB/17 (10-03)

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# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT

(\$ 330.00)

**Complete if Known**

Application Number	09/467,818
Filing Date	12/20/1999
First Named Inventor	Kiridena
Examiner Name	Dastouri, Mehrdad
Art Unit	2623
Attorney Docket No.	199-0680 (FGT 1797 PUS)

**METHOD OF PAYMENT (check all that apply)**☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:Deposit  
Account  
Number  
Deposit  
Account  
Name

06-1510

Ford Motor Company

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) (\$)

**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

	Total Claims	Extra Claims	Fee from below	Fee Paid
		-20** =	X	
	Independent Claims	-3** =	X	
	Multiple Dependent			

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

\*\*or number previously paid, if greater; For Reissues, see above

**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	330.00
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 330.00)

**SUBMITTED BY**

(Complete if applicable)

Name (Print/Type)	Jeffrey J. Chapp	Registration No. (Attorney/Agent)	50,579	Telephone	248-223-9500
Signature	<i>Jeffrey J. Chapp</i>	Date	September 23, 2004		

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